

PROJECT 10073 RECORD CARD

1. DATE 30 Jun 59		2. LOCATION Potomac River NAS, Md.		12. CONCLUSIONS <input type="checkbox"/> Was Balloon <input type="checkbox"/> Probably Balloon <input type="checkbox"/> Possibly Balloon <input type="checkbox"/> Was Aircraft <input type="checkbox"/> Probably Aircraft <input type="checkbox"/> Possibly Aircraft <input type="checkbox"/> Was Astronomical <input type="checkbox"/> Probably Astronomical <input type="checkbox"/> Possibly Astronomical <input type="checkbox"/> Other <u>UNIDENTIFIED</u> <input type="checkbox"/> Insufficient Data for Evaluation <input type="checkbox"/> Unknown	
3. DATE-TIME GROUP Local _____ GMT 01/0 232 Jul 59		4. TYPE OF OBSERVATION <input type="checkbox"/> Ground-Visual <input type="checkbox"/> Ground-Radar <input type="checkbox"/> Air-Visual <input type="checkbox"/> Air-Intercept Radar			
5. PHOTOS <input type="checkbox"/> Yes <input type="checkbox"/> No		6. SOURCE Military & Civilian			
7. LENGTH OF OBSERVATION 20-30 sec		8. NUMBER OF OBJECTS 1		9. COURSE not given	
10. BRIEF SUMMARY OF SIGHTING Shape generally oblate, about nine times longer than wide. Uniform brilliant gold in color, sharp edges. Straight & level flight at approx 4000'.				11. COMMENTS Info for proper evaluation limited, cause not determined. Short duration of sighting & sudden disappearance indicate possible mirage or reflection, however description indicates obj was solid. Gas listed as unidentified.	

CAL - Nev - One -
IDAHO - MONT -
CAN.

A. AFRC BLN FLIGHT S-463 ID CODE: Lh

B. LAUNCHED 12/1420Z JUNE 59

C. ASSUMED DOWN 18/2100Z JUNE 59 14/0007Z

D. ALTITUDE 60K

E. SIZE 1/28 FT.

F. MISSION

G. REMARKS:

H. FIXES:

FCC:

13 1930Z

12/1740Z

12/1808Z

01452

06492

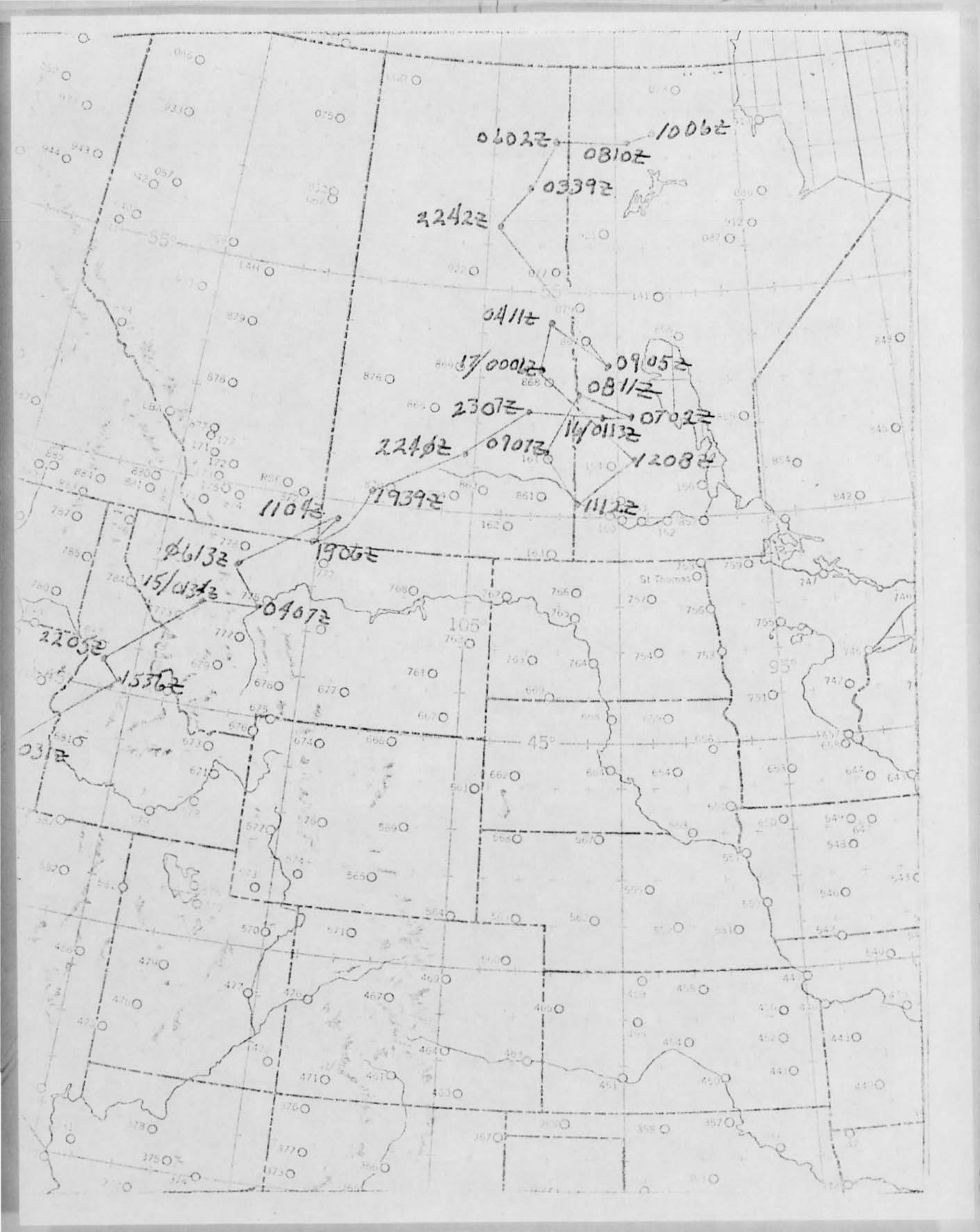
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DURBAN, SOUTH AFRICA, JUNE 15. ¹⁹⁵⁹--(UPI)--A HUGE METORITE PASSED BETWEEN TWO AIRLINERS AT DANGEROUSLY CLOSE RANGE HERE LAST NIGHT AND EXPLODED CLOSE TO ONE OF THEM, WITNESSES SAID TODAY.

THE METEORITE BURST INTO FRAGMENTS NEAR A SOUTH AFRICAN AIRWAYS FOUR-ENGINE VISCOUNT AIRLINER WHICH HAD TAKEN OFF FOR JOHANNESBURG.

--0--

METRO

NO CASE:

INFO ONLY

19 JUNE 1959

DARTMOUTH, O.H.

two months ago.

Hamilton Daily News

21 June 1959

Base Officials Studying Meteorite From Area

Wright-Patterson officials yesterday began studying pieces of a meteorite which fell to earth in Hamilton Friday afternoon, narrowly missing a 14-year-old boy.

The softball-sized meteorite—which shattered when it hit a sidewalk—was retrieved yesterday by Capt. D. B. Finscher, of the Wright-Patterson directorate of flight operations office.

A base spokesman said last night "the metallic pieces are apparently parts of a meteorite. They would be unidentifiable otherwise." He indicated they would be studied further.

* * *

THE METEORITE reportedly fell at 1:30 p.m. Friday on the property of Mr. and Mrs. Ralph Harris, 2387 Minton Rd., Hamilton. It just missed their 14-year-old son Sammy.

*Base PIO
has knowledge
63310*

19 JUNE 1959



Box One Campus Station Cincinnati 21 Ohio

25 October 1959

Maj. Lawrence J. Tacker
Pub. Inf. Div., O.I.
USAF
Washington, D.C.

Sir:

[REDACTED] of this organization, has forwarded to me your letter of 6 October 1959 for reply. It is Miss [REDACTED]'s contention that you have misunderstood her letter to you of 25 September 1959, and upon an evaluation of both pieces of correspondence, I am forced to concur with her point of view. May I note the discrepancies as I see them, to follow:

1. Miss [REDACTED] requested most specifically information concerning "two local recent happenings." Your reply refers to the phenomena as sightings, which of course they were not.
2. You have sent to Miss [REDACTED] several lengthy forms to complete; these forms deal entirely with information to be supplied by a witness to some phenomenon. Since Miss [REDACTED] did not herself witness the phenomena referred to by her, she cannot, of course, complete the forms, and I am somewhat amazed that you inferred that she did so.
3. If you are not in communication with the Wright-Patterson Air Force Base which allegedly commented upon the phenomena, would you suggest that we write to the base ourselves? I say this because you have written that the reports "contained insufficient data for valid conclusions." Miss [REDACTED] did not ask, you will note, for conclusions, but rather requested "any details you might be at liberty to supply us."

Please do not feel that I am being critical simply because I enjoy the process; however, I cannot help but feel that large organizations with much work to do, such as your own, sometimes overlook important details in dealing with volume. I regret the necessity of using more of your time in this matter as much as I regret having to use my own. Thank you for your continuing patience and coöperation.

Sincerely,

[REDACTED]
John [REDACTED]
[REDACTED]

JMP/ouu

MEMO ROUTING SLIP		N ^O USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS	
1 NAME OR TITLE	Major L. J. Tacker	INITIALS	CIRCULATE
ORGANIZATION AND LOCATION	SAFOL-3d 8SAF	DATE	COORDINATION
2			FILE
			INFORMATION
3			NECESSARY ACTION
			NOTE AND RETURN
4			SEE ME
		Lefler-Curcell	SIGNATURE
		Athenaeum Cincinnati, Ohio	
REMARKS			
<p>not Larry- Reference this letter which we discussed on the phone. The 21 June 1959 item in Hamilton, Ohio did reach ATIC as a case. However, it appeared in the local paper and I was able to run it down. The Base PIO got a call from the newspaper in the Hamilton area regarding an object falling from the sky. Thinking it might be a part from an aircraft, which occasionally happens here, he sent a helicopter there to pick it up. He referred it to a WADC lab and they said it was apparently parts of a meteorite. Here are the lab words as given to the PIO: "the metallic pieces are apparently parts of a meteorite. They would be unidentifiable otherwise". A lab analyst of Champion Paper Co. (in the Hamilton area) disputed this opinion and the newspaper called back. The PIO rechecked with the lab and they said as far as they were concerned, it was part of a meteorite. The PIO reiterated this to the newspaper, and returned the object to the finder with a letter setting forth the AF opinion.</p> <p>With respect to the 16 June 59 report about sonic boom, ATIC has nothing on this. This is understandable because</p>			
FROM NAME OR TITLE	Ted Heatt	DATE	(over) 2 Dec 59
ORGANIZATION AND LOCATION	AFCTN-4X3	TELEPHONE	55266

DD FORM 95
1 FEB 50

Replaces DA AGO Form 333, 1 Apr 43, and AFHQ Form 12, 10 Nov 47, which may be used.

GPO 438-10-74967-1

an individual or a newspaper may have called at any time of the day or night to perhaps the Base PIO or Base Duty Officer and after a check, he probably reported back that the noise or incident was a sonic boom as [REDACTED] says was reported by the Cin. Enquirer.

TJH

10 December 1959

Dear Mr. [REDACTED]:

This is to acknowledge your letter of 25 October 1959 concerning previous correspondence of this Office with Miss [REDACTED] of Cincinnati.

I regret that we misunderstood Miss [REDACTED]'s original request as we did think they were sightings she had witnessed.

The 21 June 1959 incident at Hamilton, Ohio, was not reported to the Aerospace Technical Intelligence Center as a UFO sighting. However, the Base Information Officer at Wright-Patterson Air Force Base did get a telephone call from one of the newspapers in the Hamilton area regarding an object falling from the skies. An Air Force helicopter picked up this object and it was referred to the Wright Air Development Center laboratories for analysis where it was determined that the metallic pieces were definitely parts of a meteorite. The pieces of the object were then returned to the finder with a letter outlining the Air Force conclusions.

We have no record of the 16 June 1959 sonic boom report as Carried in the CINCINNATI INQUIRER.

Sincerely,

LAWRENCE J. TACKER
Major, USAF
Public Information Division
Office of Information

Mr. [REDACTED]
[REDACTED]
Cincinnati 21, Ohio 2541062

✓ Comeback OI-3a
Reader OI-1

DEC 10 12 02

2 JUL 59 09 52N
AT/C

SECRET 11-4-59

1959 JUL 12 08 33
AT/C

1 2/E 4
2
3-4x202

ZCZCSQP004MCZCSQD668ZCJYC64

RR RJEDSQ

DE RBEPPA 016

R 021236Z

FM NAS PAXRIV MD

TO RJEZHQ/DIR INTELL HDQTRS USAF WASH DC

RJEDSQ/AIR TECH INTELL CEN WPAFB OHIO

RJWFALB/COMADC ENT AFB

RJEDNE/COMEDAF STEWART AFB

INFO RBEPPW/DNI NAVY DEPT WASH

RBEGUH/COMOASTSEAFRON

RBEPPYG/COMPRNC

NAVY GRNC

BT

FLYOB RPT X SHAPE GENERALLY OBLATE X RATIO LENGTH TO DEPTH APPROX NINE
TO ONE X UNIFORM BRILLIANT GOLD IN COLOR X METALLIC X SHARP EDGES X
SINGLE OBJECT X NEGAT ON TRAIL EXHAUST OF SOUND X SPEED NOT IN EXCESS
OF 100KTS X STRAIGHT AND LEVEL FLIGHT AT ESTIMATED 4000 FEET
X VISUAL OBSERVATION FROM GROUND AT 2223 EDST 30 JUN 59 X DURATION OF
OBSERVATION 20 TO 30 SECONDS X OBSERVED BY ~~XXXXXXXXXXXXXXXXXXXX~~ ACTDU 17

LONG 76-27W ADJACENT BLDG 924 NAS PAK RIV X OBJECT SIGHTED TO NORTH
APPROX ONE MILE DISTANT X DISAPPEARANCE SUDDEN X OBSERVER STATES
DEFINITELY NOT CONFUSED WITH EVENING STAR FALLING STAR BALLOON AFTERBURN
OR PINK DISC OF SETTING SUN LOWER ON HORIZON AND TO THE WEST X 2000

weather 16,000 K. SC.TD High SC.TD VIS 6 Light Haze 3 Tenths
WEATHER REPORT 750123Z JUL 75 16000 K. SC.TD High SC.TD VIS 6 Light Haze 3 Tenths SKY OBSCURATION
SKY obscuration Due Haze Temp 87 Dew point 77 wind
25017 X AIRCRAFT IN LOCAL TRAFFIC PATTERN CONSISTED OF ONE EACH
about 4000 ft

CFN 100KTS 4000 2023 30 59 20 30 17 38-16N 76-27W 924 2000 16000 6

3 87 77 4000 25017

02/1237Z JUL RBEPPA

7-3745-95

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FLYOB RPT X SHAPE GENEJALLY OBLATE X RATIO LENGTH TO DEPTH APPROX NINE
TO ONE X UNIFORM BRILLIANT GOLD IN COLOR X METALLIC X SHARP EDGES X
SINGLE OBJECT X NEGAT ON TRAIL EXHAUST OR SOUND X SPEED NOT IN EXCESS
OF 120KTS X STRAIGHT AND LEVEL FLIGHT AT ESTIMATED 4000 FEET X
VISUAL OBSERVATION FROM GROUND AT 2023 EDST 30 JUN 59 X DURATION OF
OBSERVATION 20 TO 30 SECONDS X OBSERVED BY ~~REDACTED~~ USN ACTDU
17 YEARS AND NINE YEAR OLD GIRL X LOCATION OF OBSERVER APPROX LAT
38-16N LONG 76-27W ADJACENT BLDG 924 NAS PAX RIV X OBJECT SIGHTED
TO NORTH APPROX ONE MILE DISTANT X DISAPPEARANCE SUDDEN X OBSERVER
STATES DEFINITELY NOT CONFUSED WITH EVENING STAR FALL STAR BALLOON
AFTERBURNER OR PINK DISC OF SETTING SUN LOWER ON HORIZON AND TO THE
WEST X 2000 WEATHER 16000 SCTD HIGH SCTD VIS 6 LIGHT HAZE 3 TENTHS
SKY OBSCURATION DUE HAZE TEMP 87 DEW POINT 77 WINDS ALOFT 4000 FEET
26017 X AIRCRAFT IN LOCAL TRAFFIC PATTERN CONSISTED OF ONE EACH
R6D P2V WV AND WF X OBSERVER STATES NOT WF

BT

CFN 120KTS 4000 2023 30 59 20 30 17 38-16N 76-27W 924 2000 16000

6 3 87 77 4000

2/1237Z JUL RBEPPA

28 JUL 59

13 410

AT/C

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1959 JUL

atc

ASTRONOMY

Four Planets Now Visible

With four of the five planets that can be seen without a telescope visible during June, this month promises an unusual display of naked-eye planets.

By JAMES STOKLEY

THE BEST DISPLAY of naked-eye planets for a considerable length of time is visible on June evenings. Venus, Mars, Jupiter and Saturn, all that are ever visible without a telescope, except for Mercury, can now be seen at the same time. (Mercury is too nearly in the same direction as the sun to be seen.)

All these planets, as well as the brighter stars, are shown on the accompanying maps as they appear about ten p.m., your own kind of standard time (add one hour for daylight saving time) at the first of June, and an hour earlier at the middle of the month (when the sky is actually not very dark).

Long before any other planet or star appears, Venus can be seen in the west. Its magnitude is now minus 3.9 on the astronomer's brightness scale, and it stands in the constellation of Cancer, the crab. On June 15 Venus will be 71,800,000 miles from earth.

Mars Close to Venus

Close to Venus, when the sky gets darker, you will see Mars. At a distance of 205,400,000 miles, on the 15th, it is only about a hundredth as bright as Venus. On June 1 Venus will be well below Mars; both are moving toward the east and Venus passes Mars on the morning of June 14. They will be invisible in the United States at the time of closest approach, but on the preceding and following evenings they will appear unusually near each other.

Jupiter is the second brightest planet. It is in the south in Libra, the scales, at a distance of 415,000,000 miles. But even though it is so far, its magnitude is minus two, which makes it a little more than a sixth as bright as Venus.

The fourth planet, Saturn, is low in the southeast, in Sagittarius, the archer; its distance is 843,000,000 miles. In magnitude it is plus 0.3, equal to a bright first magnitude star. However, its low altitude makes Saturn appear fainter, because of absorption of its light by the earth's atmosphere.

Among the stars which, unlike the planets, shine with their own light, the brightest is Vega in Lyra, the lyre, high in the east. Below this group is Cygnus, the swan, with first magnitude Deneb. Like Saturn, this is somewhat dimmed because it is rather low in the sky. To the right is Altair, in Aquila, the eagle.

High in the south is Arcurus, in Bootes, the bear-driver. Below it is Virgo, the virgin, with Spica. To the right of this group you will find Leo, the lion, of which

Regulus is the brightest star. Low in the southeast, to the left of Libra, is the scorpion, Scorpius, with first magnitude Antares, another star that is dimmed by its low altitude.

Even more dimmed are two stars shown low in the northwest; Pollux, in Gemini, the twins, and Capella, in Auriga, the charioteer. Both were very prominent in the winter evening sky, but the stars are now about to disappear for a "summer vacation."

On Sunday, June 21, at 10:50 p.m. EST (9:50 p.m., CST; 8:50 p.m., MST; 7:50 p.m. PST; add one hour to each for corresponding DST) the sun reaches its farthest north position for the year, when it will be over the Tropic of Cancer. Actually, at that moment, it will be directly over a point in the Pacific Ocean, off the island of Formosa. This is the time of the summer solstice, which marks the beginning of summer in the Northern Hemisphere. In the Southern Hemisphere, it is the beginning of winter.

With four planets visible in June in the evening sky, and the earth, as always, visible at our feet, we can see a considerable part of the solar system.

One striking feature of this family of

planets which revolve around the sun, and one that few appreciate, is that it is mostly empty space. This makes it quite impractical to construct an accurate model, although many models have been made.

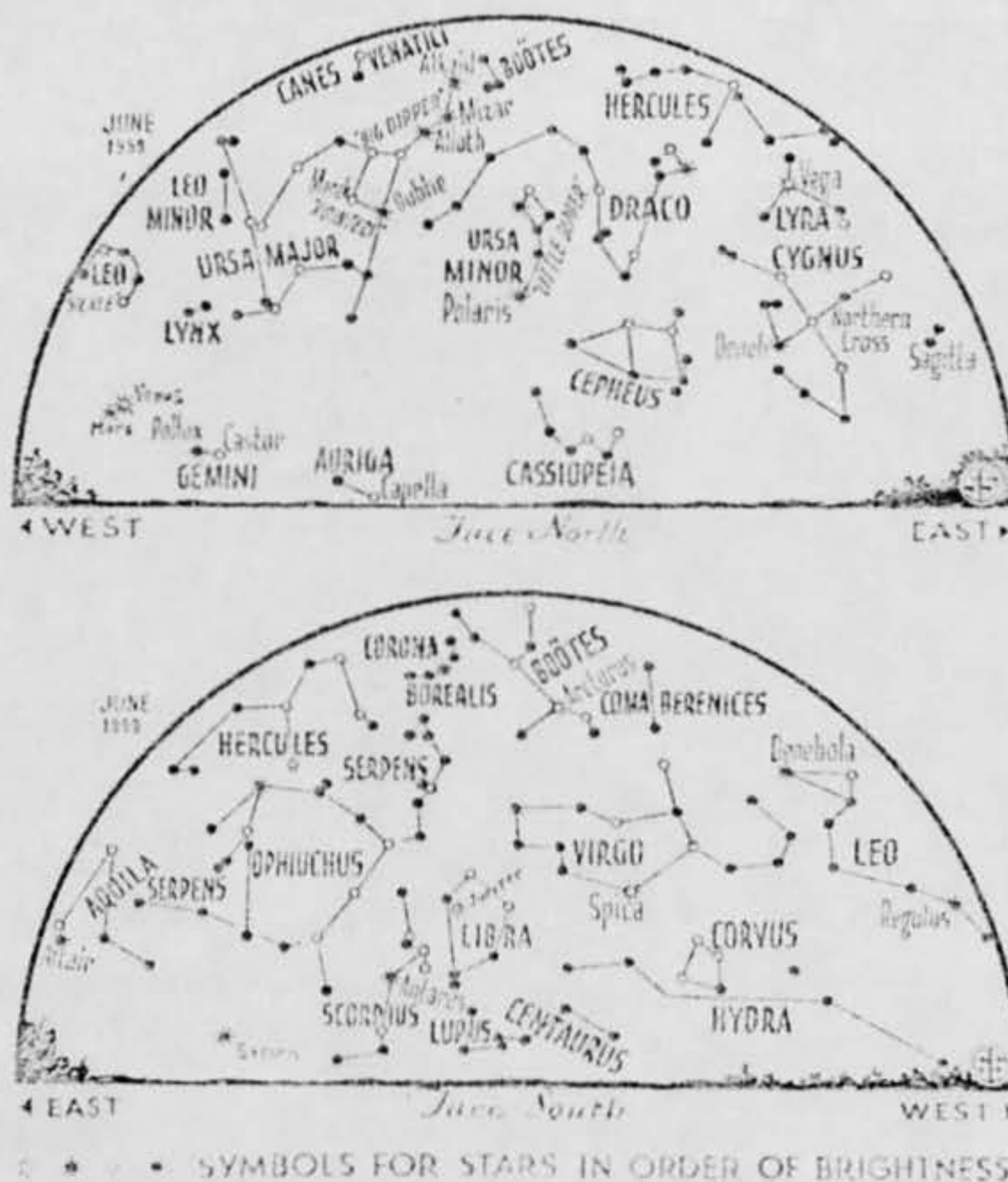
One type is called the orrery, named after a famous one that was constructed more than two hundred years ago for an Irish nobleman, the Earl of Orrery. A more modern one is displayed in New York City at the Hayden Planetarium, with balls representing the planets revolving on tracks around a glowing sun.

But any such model gives the idea that the solar system is much more crowded with planets than it actually is. If you make the ball representing the sun of reasonable size, the planets are microscopic, and spread over an area too large for convenience.

Large-Scale Orrery

Washington, D. C., might be a good place for such a model, and the dome of the Capitol might represent the sun. The outside diameter of the dome is slightly over 135 feet. Where, then, would the planets be placed, and how large would the balls representing them have to be?

For Mercury a ball about 5½ inches in diameter would be needed, and it should be placed slightly more than a mile away from the sun. This could put it inside the Department of Justice building at 9th Street and Pennsylvania Avenue. Venus, the next



• • • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

THE FIELDS

EDUCATION

Engineer Enrollment Drops First Time in Years

IN THE face of the nation's greatest need for trained engineers and scientists, freshman engineering enrollment declined markedly in 1958 for the first time in eight years.

Furthermore, one in five engineering schools expects a further drop in freshman enrollment next fall.

Last year, 70,029 engineering freshmen enrolled in the nation's schools compared with 78,757 in 1957. This was a drop of 11.1%. Total college freshmen enrollment in 1958, however, was up seven percent over the previous year.

These facts were contained in a report made public by the Engineers Joint Council, covering 223 institutions in the United States granting degrees in engineering.

Heads of engineering schools said applications from qualified students have fallen for these three reasons:

1. A false appraisal of the long-range engineering career opportunities by counselors, students and parents, based on reports in the general press on lay-offs during the 1957-58 recession.

2. Increased concern about the rigors of engineering curriculum.

3. Increased interest by potential engineering students in other scientific fields.

Engineers Joint Council is a national federation of 20 major engineering societies representing 300,000 of the country's engineers.

Science News Letter, May 23, 1959

BACTERIOLOGY

New Deadly Diseases Made From Tiny Molds

THE TINY mold that causes "athlete's foot" has been turned into a new deadly disease.

Deliberately designing new diseases from molds may now be possible, a microbiologist reported to scientists at the Society of American Bacteriologists meeting in St. Louis, Mo.

Usually molds that cause athlete's foot will grow only on the skin. If one of these molds is injected into an animal's body, it will not cause disease even though huge amounts are given. Now, however, there is evidence the relatively harmless molds can be changed into deadly forms, Dr. George H. Scherr of the University of Illinois College of Medicine said.

Three different molds were placed in small cellophane bags which were then surgically implanted into the body cavities of rabbits. The molds could not escape, but nutrients could enter, keeping the molds alive. In each case, the mold gradually

began to change its shape, Dr. Scherr said, and in approximately 20 days "had assumed a form and character completely different from the one placed in the cellophane bag."

When each new mold was injected into rabbits and mice, a severe infection resulted which destroyed the animals' internal organs. If the disease was transferred from animal to animal, it became progressively worse. No way is now known to combat the new disease, Dr. Scherr explained.

The disease caused by the changed molds may be regarded as different from any disease known, he said.

The study may contribute to knowledge of how some bacteria suddenly can infect man and animals.

John W. Rippon, one of Dr. Scherr's students, worked with him in the study.

Science News Letter, May 23, 1959

GENERAL SCIENCE

Oppenheimer Urges End Of Arms as Arbiters

THE ABILITY of the inherited institutions of our civilization to make proper decisions on uses of the unprecedented new instruments of warfare, like atomic energy, was called in question by Dr. Robert Oppenheimer, atomic energy pioneer and director of the Institute for Advanced Study, Princeton, N. J., in opening a symposium in New York on basic research.

Arms must not continue to be the last arbiter of disputes, he said.

"If we do not treasure the great inheritance on which all our work and life are based, and understand the radical novelty and the gravity of the situation in which we find ourselves," he warned, "there will be few of our children to ask again of the need for new knowledge."

Dr. Oppenheimer and other speakers urged the need of continued basic research, or inquiry directed not primarily to a practical result but to the obtaining of new knowledge.

No laboratory should be so directed to its practical missions that it cannot afford perhaps a sixth or a fifth of work that is on the face of it unrelated to its purposes, Dr. Oppenheimer said.

The great lesson of the past atomic decades has been, he observed from his direction of atomic bomb research, that men of science who have spent their whole lives in the quest of new knowledge may be among the most gifted practitioners of technology.

Dr. Alan T. Waterman, director of the National Science Foundation, Washington, declared that for continued growth in scientific research and technology and for realization of the full potential in basic research, there must be widespread public recognition and appreciation of the importance of intellectual and scholarly activity.

Dr. W. O. Baker, vice president, Bell Telephone Laboratories, advocated transference to practice in mathematical reasoning a fraction of the time given to learning of physical skills which are of diminishing importance.

Science News Letter, May 23, 1959

ROCKETS AND MISSILES

Returned Space Capsule Given to Smithsonian

THE FIRST instrumented capsule recovered intact from outer space after returning to the earth's surface at free-falling speed was presented to the Smithsonian Institution on May 15.

Officials of the U. S. Air Force said the "Data-Sphere," which is 18 inches in diameter, was launched on June 13, 1958, from Cape Canaveral, Fla. It rose more than 200 miles, re-entered the earth's atmosphere at a speed of more than 10,000 miles an hour and was ejected from the nose cone of its rocket without parachute or other retarding device.

After falling freely, the capsule struck the South Atlantic with an impact 40,000 times greater than the force of gravity. The sphere presented to the Smithsonian is the first of a series of such capsules recovered from Thor and Atlas missile firings. Each is equipped with a tiny tape recorder, a battery power-pack, dye marker, and a "bomb" that sends out a sound to indicate its location for recovery purposes.

Data recorded include temperatures, pressures, stresses during take-off and climb, conditions at the greatest altitude attained, heat encountered during re-entry into the atmosphere, and the tremendous forces of final impact as the capsule slammed into the water.

As presented to the Smithsonian, the sphere has all its original instruments installed, still surrounded by the foamlike mass that kept them from shifting inside the plastic capsule. The sphere's upper half is yellow to make it more visible, and the bottom half is coated with a greenish-black fish-repellent chemical.

Science News Letter, May 23, 1959

ASTRONOMY

Rediscovered Comet May Give Fall Meteor Display

A COMET expected to give a good display of meteors this fall has been rediscovered by Elizabeth Roemer of the U. S. Naval Observatory in Flagstaff, Ariz.

Although it is now much too faint to be seen without a very large telescope, the comet will brighten sufficiently by late October to be visible with binoculars or a small telescope. Known as Comet Giacobini-Zinner, the object is remarkable for the showers of meteors it produced in 1933 and 1946.

The comet will be within about 30,000,000 miles of the earth on Nov. 7, and the meteor display is expected about the same time.

News of the comet's rediscovery when it is only a faint magnitude 20 was reported to astronomers in the Western Hemisphere by Harvard College Observatory, Cambridge, Mass.

Science News Letter, May 23, 1959

HOW TO STUDY SCIENCE—Louis Haber and Lawrence Samuels, Glen R. Rasmussen, Ed.—*College Entrance Pubs.*, 81 p., illus., paper, \$1. To help the science student use special techniques and efficient methods in studying science.

INDIAN SILVERWORK OF THE SOUTHWEST, ILLUSTRATED, VOL. 1—Harry P. Mera—*Dale Stuart King*, 122 p., 198 photographs, paper, \$1. Pictorial presentation of the progress from early simple forms to later more complex styles developed by Indian craftsmen.

INTRODUCTION TO HUMAN ANATOMY—Carl C. Francis—*Mosby*, 3rd ed., 548 p., illus., \$5.75. Chapter on endocrine system and section on the autonomic nervous system brought up to date.

LABORATORY EXERCISES IN ANIMAL BIOLOGY—Dale C. Braungart—*Mosby*, 5th ed., 244 p., paper, \$3.50. To be used with general zoology textbooks.

THE MAGIC YEARS—Understanding and Handling the Problems of Early Childhood—Selma H. Fraiberg—*Scribner*, 305 p., \$3.95. Discusses the typical problems of each developmental stage during the first five years of normal childhood. For parents.

MECHANICS OF MACHINES: Elementary Theory and Examples—John Hannah and R. C. Stephens—*Arnold, E. & Co. (St. Martins)*, 238 p., illus., \$5. First year engineering course.

MEDIEVAL AND EARLY MODERN SCIENCE, VOL. I: Science in the Middle Ages, V-XIII Centuries. Vol. II: Science in the Later Middle Ages and Early Modern Times, XIII-XVII Centuries—A. C. Crombie—*Doubleday*, rev. 2d ed., 296 p. and 380 p. resp., illus., paper, 95¢ each. Contains 62 pages of bibliography.

MORE ABOUT THE BACKWARD CHILD—Herta Loewy—*Philosophical Lib.*, 138 p., illus., \$4.75. Guide for parents and teachers, showing Miss Loewy's method in reading, writing and arithmetic, in speech training, music and rhythm.

THE NEW WORLD OF MATH—George A. W. Boehm and the Editors of FORTUNE—*Dial Press*, 128 p., diagrams by Max Gschwind, \$2.50. Deals with modern mathematics, pure and applied, and takes up the future of computers. Articles first appeared in FORTUNE.

PACIFIC SCIENCE BOARD: Bi-Annual Report 1957-58—Alexander Spoehr, Chmn.—*Pacific Science Bd., NAS-NRC*, 71 p., paper, free upon request direct to publisher, Washington 25, D. C. Scientific investigation in Micronesia and other reports.

THE PHYSICAL SCIENCES—E. J. Cable and others—*Prentice-Hall*, 4th ed., 553 p., illus., \$6.95. Comprehensive but not highly technical presentation for the general college student who lacks higher mathematics.

PLANT LIFE—Lorus J. Milne and Margery Milne—*Prentice-Hall*, 283 p., illus., \$6.95. Emphasis is on the dynamic aspects of botany as an advancing science and what it means to man. Textbook.

PLANT PROPAGATION: Principles and Practices—Hudson T. Hartmann and Dale E. Kester—*Prentice-Hall*, 559 p., illus., \$8.75. Emphasis on propagation methods.

planet, would be a ball about 14¼ inches in diameter, and it might rest on the President's desk in the White House, about two miles from the Capitol dome. The earth? A ball about 15 inches in diameter, over in Arlington in front of the Pentagon, nearly three miles away. Mars is out in the Washington Zoological Park, about 4¼ miles from the sun. Its diameter: 7¼ inches.

The Jupiter ball is considerably larger, 13 feet 7 inches in diameter; it is located down the Potomac at Fort Belvoir, just below Mt. Vernon and somewhat more than 14 miles from the Capitol. Saturn must be placed about 26 miles away, in Annapolis. Its diameter is 11 feet, 2 inches. Uranus, about 4 feet 7 inches in diameter, is 53 miles away, in Fredericksburg, Va. Neptune is a little smaller, 4 feet, 4 inches in diameter. It is 82½ miles distant, which would place it in Pennsylvania, south of Harrisburg. And Pluto, at its mean distance, is 109 miles away. This would put it, a ball 6¼ inches in diameter, in Chester, Pa., a little south of Philadelphia.

Finally there are the asteroids. These are a group of tiny planets, some a mile or less in diameter, that move generally in orbits between those of Mars and Jupiter. Many thousands are within reach of great telescopes. On our model these would be represented by a truck load of sand and pebbles, scattered around a circle about eight miles from the Capitol.

The total area within the circle representing Pluto's orbit would be about 37,000 square miles. With nothing in this region except the dome, the nine balls, ranging from a few inches to 14 feet in diameter, plus the sand and pebbles, you can see how empty the solar system actually is!

Celestial Time Table for June

June EST

4	3:00 a.m.	Moon farthest, distance 252,500 miles.
6	6:53 a.m.	New moon.
10	9:52 a.m.	Moon passes Venus.
	1:15 p.m.	Moon passes Mars.
14	12:22 a.m.	Moon in first quarter.
	8:00 a.m.	Venus passes Mars.
18	6:02 a.m.	Moon passes Jupiter.
19	8:00 a.m.	Moon nearest, distance 223,500 miles.
20	3:00 p.m.	Full moon.
	11:51 p.m.	Moon passes Saturn.
21	10:50 p.m.	Sun farthest north, beginning of summer.
23	3:00 a.m.	Venus farthest east of sun.
25	10:00 p.m.	Saturn nearest, distance 840,700,000 miles.

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, May 23, 1959

No Case (Information Only)

10 June 1959
Booth Lake, Wisconsin

METEOR SIGHTINGS

6-10-59 8:55 P.M.

Changed color white to red, ENE to WSW, straight horizontal path, visible 15 seconds. Observed from Booth Lake, Wisconsin.